IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A disk apparatus for reproducing a disk on which information is recorded by pits or marks with various lengths, the minimum pit pitch being 0.102μm and a run length limitation = (1,10), comprising:

a photodetection unit configured to divisionally detect light reflected by the disk as a plurality of photodetection signals; and

a tracking error signal generation unit configured to generate a tracking error signal on the basis of a phase difference between the plurality of photo-detection signals detected by the photodetection unit, wherein

the tracking error signal generation unit includes an equalization unit configured to equalize waveforms of the plurality of photodetection signals detected by the photodetection unit,

the equalization unit has first frequency-gain characteristics that obtain a maximum gain of not less than 15 dB at a frequency corresponding to a shortest pit or mark, and second frequency-gain characteristics in which a gain attenuates within a frequency band not less than the frequency corresponding to the shortest pit or mark, and

the equalization unit has third frequency-gain characteristics that obtain a gain of not more than -3 dB at a frequency three times the frequency corresponding to the shortest pit or mark.

Claim 2 (Canceled).

Claim 3 (Original): An apparatus according to claim 1, wherein the equalization unit includes:

a high-pass filter having frequency-gain characteristics in which a gain is constant within a first frequency range not more than a first frequency, a gain is constant within a second frequency range not less than a second frequency which is more than the first frequency, and a gain increases in a third frequency band between the first and second frequencies, and

a low-pass filter having frequency-gain characteristics in which a gain attenuates within a fourth frequency band not less than a third frequency.

Claim 4 (Canceled).

Claim 5 (Currently Amended): An apparatus according to claim 3, wherein the first frequency ~~range~~ is set from 0.5 to 1.5 times a frequency corresponding to a pit or mark with which a reproduction signal amplitude saturates,

the second frequency ~~range~~ is set from 0.5 to 1.5 times the frequency corresponding to the shortest pit or mark,

the third frequency matches the frequency corresponding to the shortest pit or mark, and

a Q value of the low-pass filter is not less than 2.

Claim 6 (Previously Presented): An apparatus according to claim 1, wherein a transfer function H of the equalization unit is given by:

$H = (1+3.99\times10^{-8}s)/$

$(1+1.58\times10^{-8}s+1.41\times10^{-16}\ s2+1.24\times10^{-24}s3)$

$s = j\omega$ (complex frequency).

Claim 7 (Original): An apparatus according to claim 5, wherein a ratio of the shortest pit or mark to the pit or mark for which the reproduction signal amplitude saturates is 2 : 8.

Claim 8 (Original): An apparatus according to claim 1, wherein the gain at the frequency corresponding to the shortest pit or mark is not less than 0.

Claim 9 (Currently Amended): An information processing method for processing a signal read out from a disk on which information is recorded by pits or marks with various lengths, the pits having a minimum pit pitch of 0.102μm and a run length limitation = (1,10), comprising:

divisionally detecting light reflected by the disk as a plurality of photodetection signals;

equalizing waveforms of the plurality of detected photodetection signals by an equalizer having first frequency-gain characteristics that obtain a maximum gain of not less than 15 dB at a frequency corresponding to a shortest pit or mark, and second frequency-gain characteristics in which a gain attenuates within a frequency band not less than the frequency corresponding to the shortest pit or mark; and

generating a tracking error signal on the basis of a phase difference between the plurality of equalized signals, wherein

the equalizer has third frequency-gain characteristics that obtain a gain of not more than -3 dB at a frequency three times the frequency corresponding to the shortest pit or mark.

Claim 10 (Canceled).

Claim 11 (Original): A method according to claim 9, wherein the equalizer includes:

a high-pass filter having frequency-gain characteristics in which a gain is constant within a first frequency range not more than a first frequency, a gain is constant within a second frequency range not less than a second frequency which is more than the first frequency, and a gain increases in a third frequency band between the first and second frequencies, and

a low-pass filter having frequency-gain characteristics in which a gain attenuates within a fourth frequency band not less than a third frequency.

Claim 12 (Canceled).

Claim 13 (Currently Amended): A method according to claim 11, wherein the first frequency ~~range~~ is set from 0.5 to 1.5 times a frequency corresponding to a pit or mark with which a reproduction signal amplitude saturates,

the second frequency ~~range~~ is set from 0.5 to 1.5 times the frequency corresponding to the shortest pit or mark,

the third frequency matches the frequency corresponding to the shortest pit or mark, and

a Q value of the low-pass filter is not less than 2.

Claim 14 (Previously Presented): A method according to claim 9, wherein a transfer function H of the equalizer is given by:

$H = (1+3.99\times10^{-8}s)/$

$(1+1.58\times10^{-8}s+1.41\times10^{-16}s\ 2+1.24\times10^{-24}s3)$

$s = j\omega$ (complex frequency).

Claim 15 (Original): A method according to claim 13, wherein a ratio of the shortest pit or mark to the pit or mark for which the reproduction signal amplitude saturates is 2 : 8.

Claim 16 (Original): A method according to claim 9, wherein the gain at the frequency corresponding to the shortest pit or mark is not less than 0.